IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of

ATTWATER, et al. Atty. Ref.: 36-1829

Serial No. 10/500,826 TC/A.U.: 2626

Filed: July 7, 2004 Examiner: Leonard SAINT CYR

For: MULTI-MODE INTERACTIVE DIALOGUE APPARATUS AND METHOD

* *

August 19, 2009

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. § 41.37(c)

Sir:

Applicant has appealed to the Board of Patent Appeals and Interferences (Notice of Appeal filed June 19, 2009) from the last decision of the Examiner (Final Office Action dated February 18, 2009 and Advisory Action dated June 22, 2009). An appeal brief pursuant to 37 C.F.R. § 41.37(c) is now presented.

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(I) REAL PARTY IN INTEREST

The real party in interest is British Telecommunications public limited company, a British corporation of the United Kingdom.

(II) RELATED APPEALS AND INTERFERENCES

The appellant, the undersigned, and the assignee are not aware of any related appeals, interferences, or judicial proceedings (past or present), which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

(III) STATUS OF CLAIMS

Claims 1-5, 7-11, 13-27, 29-33, and 35-46 are pending and have been rejected. Claims 6, 12, 28, 34, and 47 previously were cancelled. No claims have been substantively allowed. The rejection of claims 1-5, 7-11, 13-27, 29-33, and 35-46 is being appealed.

(IV) STATUS OF AMENDMENTS

No amendments have been filed since the date of the Final Rejection.

(V) SUMMARY OF CLAIMED SUBJECT MATTER

Each independent claim, each dependent claim argued separately, and each claim having means plus function language is summarized below including exemplary reference(s) to page and line number(s) of the specification.

A. Introduction

The invention of the claims relates to a multi-modal interactive dialogue apparatus and method that has inputs and outputs of different data types, e.g., audio and visual. The apparatus is provided with at least one input port and at least one output port, and properties for each input and output port are established. The apparatus also is provided with a data store in which data relating to properties of the different types is stored, and this data may be used to control how a dialogue with a user progresses. One of the properties is the utilization made by a user of each input and output port, and input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received.

B. Independent Apparatus Claim 1

Independent apparatus claim 1 relates to an interactive dialogue apparatus (e.g., 101 in Fig. 4, p. 8, line 18 to p. 9, line 7). At least one input port (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) is provided. Two or more output ports (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) are provided. Means for

processing input responses to determine the semantic meaning thereof are provided (e.g., 113 in Fig. 1; components in Fig. 2; p. 2, lines 19-20; p. 6, line 8 to p. 8, line 7). Control means for determining a suitable output prompt to be output from at least one of said output ports in response to a received input response are provided (e.g., steps in Fig. 7 flowchart; p. 2, lines 21-22; p. 18, line 1 to p. 20, line 2), wherein said output ports (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) are respectively arranged to output output prompts of different types. A first store stores input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough (e.g., 28 in Fig. 3; p. 2, lines 25-27; p. 7, lines 18-22; tables 3-4). Said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received (e.g., step 7.3 in Fig. 7; p. 15, lines 5-18; p. 18, lines 23-27). One of said properties is the utilization made by a user of each input and output port (e.g., p. 15, line 29 to p. 16, line 2). Means for establishing from said properties for each of said input and output ports a user preference value are provided (e.g., p. 15, lines 19-28).

C. Independent Apparatus Claim 2

Independent apparatus claim 2 relates to an interactive dialogue apparatus (e.g., 101 in Fig. 4, p. 8, line 18 to p. 9, line 7). Two or more input ports (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) are provided. At least one output port (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5;

p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) are provided. Means for processing input responses received at one or more of said input ports to determine the semantic meaning thereof are provided (e.g., 113 in Fig. 1; components in Fig. 2; p. 2, lines 32-33; p. 6, line 8 to p. 8, line 7). Control means for determining a suitable output prompt to be output from said output port in response to a received input response are provided (e.g., steps in Fig. 7 flowchart; p. 3, lines 1-2; p. 18, line 1 to p. 20, line 2), wherein said input ports are respectively arranged to receive input responses of different types (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1). A first store stores input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough (e.g., 28 in Fig. 3; p. 3, lines 5-7; p. 7, lines 18-22; tables 3-4). Said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received (e.g., step 7.3 in Fig. 7; p. 15, lines 5-18; p. 18, lines 23-27). One of said properties is the utilization made by a user of each input and output port (e.g., p. 15, line 29 to p. 16, line 2). Means for establishing from said properties for each of said input and output ports a user preference value are provided (e.g., p. 15, lines 19-28).

D. Independent Method Claim 23

Independent method claim 23 relates to an interactive dialogue method (e.g., Fig. 7 flowchart; p. 18, lines 1-32). Input responses are received via at least one input port (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11,

lines 3-19; table 1). The input responses are processed to determine the semantic meaning thereof (e.g., 113 in Fig. 1; components in Fig. 2; p. 2, lines 19-20; p. 6, line 8 to p. 8, line 7). A suitable output prompt to be output from at least one of two or more output ports in response to a received input response (e.g., "output content" in Fig. 5; p. 2, lines 21-22; p. 18, line 1 to p. 20, line 2), wherein said output ports (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) are respectively arranged to output output prompts of different types. Input and output data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough (e.g., 28 in Fig. 3; p. 2, lines 25-27; p. 7, lines 18-22; tables 3-4) are stored. Said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received (e.g., step 7.3 in Fig. 7; p. 15, lines 5-18; p. 18, lines 23-27). One of said properties is the utilization made by a user of each input and output port (e.g., p. 15, line 29 to p. 16, line 2). From said properties for each of said input and output ports, a user preference value is established (e.g., p. 15, lines 19-28).

D. Independent Method Claim 24

Independent method claim 24 relates to an interactive dialogue method (e.g., Fig. 7 flowchart; p. 18, lines 1-32). Input responses at least one or more input ports are received (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1). The input responses received at one or more of said input ports are processed to determine the semantic meaning thereof (e.g., 113 in Fig. 1;

components in Fig. 2; p. 2, lines 32-33; p. 6, line 8 to p. 8, line 7). A suitable output prompt to be output from an output port in response to a received input response is determined (e.g., "output content" in Fig. 5; p. 2, lines 21-22; p. 18, line 1 to p. 20, line 2); p. 3, lines 1-2; p. 18, line 1 to p. 20, line 2), wherein said input ports (e.g., provided to 461 and 462 in Fig. 4; 56 in Fig. 5; p. 9, line 28 to p. 10, line 11; p. 11, lines 3-19; table 1) are respectively arranged to receive input responses of different types. Input and output data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough are stored (e.g., 28 in Fig. 3; p. 3, lines 5-7; p. 7, lines 18-22; tables 3-4). Said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received (e.g., step 7.3 in Fig. 7; p. 15, lines 5-18; p. 18, lines 23-27). One of said properties is the utilization made by a user of each input and output port (e.g., p. 15, line 29 to p. 16, line 2). From said properties for each of said input and output ports, a user preference value is established (e.g., p. 15, lines 19-28).

(VI) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-5, 7-11, 13-27, 29-33, and 35-46 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Coffman et al. (U.S. Publication No. 2003/0005174).

(VII) ARGUMENT

Claims 1-5, 7-11, 13-27, 29-33, and 35-46 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Coffman et al. (U.S. Publication No. 2003/0005174). This rejection is erroneous and should be reversed for at least the following reasons.

Independent claim 1 recites, *inter alia*, "a first store storing input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough; wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received; wherein one of said properties is the utilization made by a user of each input and output port; and means for establishing from said properties for each of said input and output ports a user preference value." Independent claims 2, 23, and 24 include similar recitations. Coffman does not expressly disclose, or inherently require, the above-quoted features of claim 1, or the corresponding features of claims 2, 23, and 24. Thus, Coffman does not anticipate these claims, or their respective dependents.

Although the Final Office Action errs in a number of regards, the remarks provided below highlight three clear errors that each require reversal of the Final Rejection.

First, with respect to the storage/updating of I/O data types, the Final Office Action (1) misquotes Coffman, and (2) blends together text from two unrelated portions thereof (namely, paragraph 98 describing Fig. 5 and Dialog Manager and Arbitrator

(DMA) components and paragraph 166 describing Fig. 9 under I/O management), in an apparent attempt to find a disclosure of a feature that is clearly missing.

In particular, the Final Office Action quotes paragraph 98 of Coffman:

> "[T]he short term history stores information at the level of each sate [sic -- state] in a dialog, the long term history would store information at the level of the entire dialog."

This passage is part of a section that begins at paragraph 93 and is directed to components of the Dialog Manager and Arbitrator (DMA) that are used to provide bookkeeping services, including the aDMA short-term memory, described at paragraph 96.

The Final Office Action seeks to combine the above-quoted text from paragraph 98 with the following text from paragraph 166:

> "The I/O manager 200 can modify and produce outputs through DOM commands that update the state and presentation of the browser 205."

To put this latter quotation in context, paragraph 166 relates to an I/O manager -- not to an interactive dialogue apparatus, as required by claim 1. Moreover, as illustrated in Fig. 6 of Coffman, the I/O manager 83 is distinct from its dialog managers and arbitrators 81 and 82.

Coffman's I/O manager is defined at paragraph 101 as the component that interfaces with all input and output devices. In particular, the I/O manager sends input notification events to the DMA and presents to users the output requests sent through the DMA. As such, the I/O manager is a conduit for messages originating in the DMA on one side and messages originating in the I/O devices on the other side. It is the DMAs (rather than the I/O manager) that handle the dialog, with the rDMA handling the main dialog while the aDMAs handle user access sub-dialogs (as described at paragraph 90).

The Final Office Action misinterprets this passage as teaching an I/O manager modifying the state of the dialog. What is described, however, is that it is the state of the browser that is updated. There is no reference in this passage to the state of the dialog described in the passage quoted from paragraph 98. In fact, as demonstrated above, Coffman's I/O manager does not deal with the dialog. Rather, Coffman's I/O manager acts as a mere conduit for messages. The Final Office Action therefore errs in trying to combine the action of the I/O manager of paragraph 166 with the state of the dialog of paragraph 98.

The Final Office Action goes on to argue that the description of the I/O manager modifying and producing outputs that update the state of the dialog [sic -- browser] "implies" dynamically updating input and output data when any of said one or more properties change; and/or output prompts are sent; and/or input responses are received. Presumably, the Examiner intended to refer to the "input and output type data" of claim 1. In any event, the Final Office Action does not explain what aspect of Coffman corresponds to the "input and output type data" of claim 1. Instead, the Final Office Action merely repeats the wording of claim 1, without establishing any mapping to the quoted passages from Coffman.

In a nutshell, the Final Office Action fails to demonstrate where the specifically claimed the storage/updating of I/O data types is to be found in Coffman.

Apart from the above, the Examiner has previously tried to find such features elsewhere in Coffman. For instance, the Examiner previously relied on, for example, paragraphs 60, 61, and 53, to attempt to address Applicant's arguments that Coffman

does not teach storage and dynamic updating of input/output type data when certain properties change, output prompts are sent or input responses are received. It appears that the Examiner has withdrawn this line of argumentation, as the Examiner's more thorough remarks and parenthetical insertions in the actual rejection have been removed in the Final Office Action, in favor of the arguments specifically refuted above. However, to the extent that the Examiner continues to rely on this earlier, apparently withdrawn, line of argumentation, Applicant incorporates by reference those arguments specifically set forth in the December 2, 2008 Request for Reconsideration.

Second, with respect to the user preferences, the Final Office Action fails to appreciate the very fundamental differences between a user and an interactive dialogue apparatus. In this regard, the Final Office Action maintains that paragraph 175 of Coffman teaches an interactive dialogue apparatus (as recited in claim 1) comprising means for establishing a user preference value for each input and output port from properties, said properties comprising the utilization made by a user of each input and output port. More particularly, the Examiner argues that the following text from Coffman teaches establishing a user preference value for each port:

> "The user may interact with the different applications offered by the portal based on, e.g., a list of applications subscribed by the user, user preference or user past history, or simply the result of the evolution of the interaction of the user with the Portal."

However, this portion of Coffman is describing the user, not an interactive dialogue apparatus, interacting according to the user's own preferences. This is clearly stated, i.e., "***[t]he user may interact*** *with the different applications offered by the portal*

***based on**, e.g., a list of applications subscribed by the user, **user preference**. . .*"

(emphases added).

There simply is no explicit or even "implicit" teaching in Coffman of the interactive dialogue apparatus itself establishing a preference value for a port. The section of Coffman quoted in the Final Office Action (and reproduced without further explanation in the Advisory Action) simply teaches a user having the freedom to act according to his/her own preferences. This has no correspondence with any feature of claim 1, which is directed to an interactive dialogue apparatus comprising means for itself independently establishing a user preference value for each input and output port.

Coffman does describe a dialogue manager and arbitrator (DMA) that seeks to identify the mode of user input and to match that input to a suitable application -- i.e., an application capable of handling that mode. But the Final Office Action apparently misses the perhaps more fundamental fact that the inventors of the instant application have improved on systems like those described in Coffman, e.g., by providing an interactive dialogue apparatus that is itself capable of establishing user preference values from an analysis of user behavior. Specifically, user preferences are established on the basis of the utilization made by each user of each input and output port. Accordingly, certain exemplary embodiments provide a dialogue apparatus that is capable of selecting from multiple inputs or outputs the particular input or output that is able to convey information in a mode most easily processed by the user -- a feature that clearly is not offered by Coffman.

For example, if it is found that motor-input (i.e., a keyboard) is preferred over audio-input (even though both are supported), the unused modality could be allocated to a 'supportive' role. That is, rather than using modality-independent wordings (such as "what is your surname?") for audio-output, the alternative "please enter your surname" could be used. The audio-output prompt directs the caller to use their modality of choice (i.e., the keyboard). The system, as a result, becomes supportive of the caller's preferred modality. This is an area not addressed by Coffman, which teaches no means to achieve the enhanced user interface provided by the apparatus and methods claimed.

In view of the above, Applicant submits that the Final Rejection is further flawed as clearly mistaking a user for an interactive dialog apparatus.

Third, with respect to the claimed properties that are linked to the claimed ports, the Final Office Action confuses the specifically claimed "ports" with the "portal" of Coffman. In particular, the Final Office Action alleges that the claim 1 recitation of "wherein one of said properties is the utilization made by a user of each input and output port" is met by paragraph 153 of Coffman. Of course, the citation to paragraph 153 appears to be a typographical error, and Applicant assumes the intent was to direct Applicant to paragraph 173, which includes the language reproduced in the Final Office Action:

> "The user may interact with the different applications offered by the portal based on, e.g., a list of applications subscribed by the user, user preference or user past history, or simply the result of the evolution of the interaction of the user with the Portal."

This passage is from yet another section of Coffman -- this one being directed to a voice or conversational portal as illustrated in Fig. 10. Coffman refers here to a "portal."

But no reference can be found in this passage to a "port." As explained in the last sentence of paragraph 176, the portal is synonymous with the rDMA (a dialog arbitrator). Claim 1, on the other hand, is directed to an interactive dialogue apparatus comprising means for processing input responses and determining a suitable output prompt to be output from at least one of said output ports. The ports of claim 1 are means for inputting and outputting messages (i.e., input responses and output prompts). They are not dialog arbitrators. There simply is no correspondence between the definition of "portal" in Coffman and the ports of claim 1. There is no teaching in Coffman of properties comprising the utilization made by a user of each input and output port as recited in claim 1.

Because the Final Office Action has erroneously equated "ports" with "portals," it fails to demonstrate where Coffman teaches that "one of said properties is the utilization made by a user of each input and output port."

In sum, Applicant respectfully submits that the Final Office Action (1) fails to demonstrate where the specifically claimed storage/updating of I/O data types is to be found in Coffman, (2) clearly mistakes a user for an interactive dialog apparatus, and (3) erroneously equates "ports" with "portals" in an attempt to find some teaching that corresponds "one of said properties [being] the utilization made by a user of each input and output port." Substantially the same reasoning applies with respect to claims 2, 23, and 24, inasmuch as these claims incorporate features analogous to those discussed above in detail in connection with claim 1. Accordingly, Applicant respectfully requests that the outstanding § 102 rejection be reversed as to all pending claims.

CONCLUSION

It is believed that the rejection of claims 1-5, 7-11, 13-27, 29-33, and 35-46 is erroneous and should be reversed.

Respectfully submitted,

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(VIII) CLAIMS APPENDIX

1. An interactive dialogue apparatus comprising:

at least one input port;

two or more output ports;

means for processing input responses to determine the semantic meaning thereof;

control means for determining a suitable output prompt to be output from at least one of said output ports in response to a received input response, wherein said output ports are respectively arranged to output output prompts of different types; and

a first store storing input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough;

wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received;

wherein one of said properties is the utilization made by a user of each input and output port; and

means for establishing from said properties for each of said input and output ports a user preference value.

2. An interactive dialogue apparatus comprising:

two or more input ports;

at least one output port;

means for processing input responses received at one or more of said input ports to determine the semantic meaning thereof;

control means for determining a suitable output prompt to be output from said output port in response to a received input response, wherein said input ports are respectively arranged to receive input responses of different types; and

a first store storing input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough;

wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received;

wherein one of said properties is the utilization made by a user of each input and output port; and

means for establishing from said properties for each of said input and output ports a user preference value.

3. An apparatus according to claim 2, and further comprising:

at least one additional output port,

wherein said control means is further arranged to determine a suitable output prompt to be output from at least one of said output ports in response to a received input response; and

wherein said output ports are respectively arranged to output output prompts of different types.

4. An apparatus according to claim 1, wherein:

for any particular received input prompt, output prompts which are semantically synonymous or which mutually contribute towards a single semantic message independent of type are output from two or more of the output ports.

5. An apparatus according to claim 1, wherein each input or output port is adapted to connect to one or more input or output devices via respective device gateways.

7. An apparatus according to claim 1, wherein one of said properties is the connection of appropriate input or output devices to each of said input or output ports.

8. An apparatus according to according to claim 1, wherein one of said properties is user preference value for each of said input and output ports.

9. An apparatus according to according to claim 1, wherein one of said properties is device property data of input or output devices connected to said input or output ports.

10. An apparatus according to according to claim 1, wherein:

one of said properties is implementation data indicative of: whether an output prompt has been implemented in each output prompt type and/or input parse rules for each input response type.

11. An apparatus according to claim 1, wherein one of said properties is type-supported data indicative of whether the apparatus is capable of receiving and/or outputting input responses and/or output prompts of each type.

13. An apparatus according to claim 12, wherein the update of said data comprises instantiating new data structures to store the values of said changed properties, and storing said previous data to give a historical record of said data.

14. An apparatus according to claim 1, wherein said input and output type data further includes timing data indicative of the timings of changes in said one or more properties.

15. An apparatus according to claim 1, wherein said input and output type data comprises a single data entry for each input and output type, the value taken by a particular data entry being dependent on previous values of any one or more of that or other data entries.

16. An apparatus according to claim 1, further comprising:

a second store data defining a dialogue to be held with a user, and dialogue progression conditions which must be met to allow a user to progress through the dialogue, at least some of said conditions involving the stored input and output type data.

17. An apparatus according to claim 1, and further comprising:

a second store storing data defining a dialogue model comprising an initial state, a plurality of subsequent states, possible transitions between said states, and for each transition at least one associated condition to be satisfied before that transition is deemed allowable, at least some of said conditions involving the stored input and output type data.

18. An apparatus according to claim 16, wherein the second store comprises a plurality of distributed storage media.

19. An apparatus according to claim 1, and further comprising:

port control means for controlling the connections of input or output devices to said input or output ports in response to the stored input and output type data.

20. An apparatus according to claim 1, and further comprising:

means for generating output prompts, said means being operable to generate output prompts adapted for particular output ports in dependence on the stored input and output type data.

21. An apparatus according to claim 1, wherein said first store comprises a plurality of distributed storage media each logically interconnected.

22. An apparatus according to claim 1, wherein the different types of output prompts or input responses comprise audio prompts or responses, or visual prompts or responses, or motor prompts or responses, in any combination thereof.

23. An interactive dialogue method comprising:

receiving input responses at least one input port;

processing the input responses to determine the semantic meaning thereof;

determining a suitable output prompt to be output from at least one of two or more output ports in response to a received input response, wherein said output ports are respectively arranged to output output prompts of different types; and

storing input and output data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough;

wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received;

wherein one of said properties is the utilization made by a user of each input and output port; and

establishing from said properties for each of said input and output ports a user preference value.

24. An interactive dialogue method comprising:

receiving input responses at least one or more input ports;

processing the input responses received at one or more of said input ports to determine the semantic meaning thereof;

determining a suitable output prompt to be output from an output port in response to a received input response, wherein said input ports are respectively arranged to receive input responses of different types; and

storing input and output data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough,

wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received;

wherein one of said properties is the utilization made by a user of each input and output port; and

establishing from said properties for each of said input and output ports a user preference value.

25. A method according to claim 24, wherein said determining step determines a suitable output prompt to be output from at least one of a plurality of output ports in

response to a received input response; and wherein said output ports are respectively arranged to output output prompts of different types.

26. A method according to claim 23, wherein for any particular received input prompt, output prompts which are semantically synonymous or which mutually contribute towards a single semantic message independent of type are output from two or more of the output ports.

27. A method according to claim 23, further comprising:

connecting any one or more of the input or output ports to one or more input or output devices via respective device gateways.

29. A method according to claim 23, wherein one of said properties is the connection of appropriate input or output devices to each of said input or output ports.

30. A method according to claim 23, wherein one of said properties is a user preference value for each of said input and output ports.

31. A method according to claim 23, wherein one of said properties is device property data of input or output devices connected to said input or output ports.

32. A method according to claim 23, wherein one of said properties is implementation data indicative of whether an output prompt has been implemented in each output prompt type.

33. A method according to claim 23, wherein one of said properties is type-supported data indicative of whether the apparatus is capable of receiving and/or outputting input responses and/or output prompts of each type.

35. A method according to claim 23, wherein the update of said data comprises instantiating new data structures to store the values of said changed properties, and storing said previous data to give a historical record of said data.

36. A method according to claim 23, wherein said input and output type data further includes timing data indicative of the timings of changes in said one or more properties.

37. A method according to claim 23, wherein:

said input and output type data comprises a single data entry for each input and output type, the value taken by a particular data entry being dependent on previous values of any one or more of that or other data entries.

38. A method according to claim 23, and further comprising:

storing data defining a dialogue to be held with a user, and dialogue progression conditions which must be met to allow a user to progress through the dialogue, at least some of said conditions involving the stored input and output type data.

39. A method according to claim 23, and further comprising:

storing data defining a dialogue model comprising an initial state, a plurality of subsequent states, possible transitions between said states, and for each transition at least one associated condition to be satisfied before that transition is deemed allowable, at least some of said conditions involving the stored input and output type data.

40. A method according to claim 38, wherein said data defining the dialogue model is stored on a plurality of storage media each of which is logically interconnected.

41. A method according to claim 23, and further comprising:

controlling the connections of input or output devices to said input or output ports in response to the stored input and output type data.

42. A method according to claim 23, and further comprising:

generating output prompts adapted for particular output ports in dependence on the stored input and output type data.

43. A method according to claim 23, wherein said input and output type data is stored on a plurality of distributed storage media.

44. A method according to claim 23, wherein the different types of output prompts or input responses comprise audio output prompts or input responses, or visual output prompts or input responses, or motor outer prompts or input responses, in any combination thereof.

45. A computer storage medium containing a computer program or suite of programs so arranged such that when executed on a computer the program or programs cause the computer to perform an interactive dialogue method according to claim 23.

46. A computer storage medium containing a computer program or suite of programs so arranged such that when loaded into a computer it or they renders the computer an apparatus according to claim 1.

(IX) EVIDENCE APPENDIX

None.

(X) RELATED PROCEEDINGS APPENDIX

None.